

What is claimed is:

1. An image forming process comprising the step of:
fixing a toner image formed on an image bearing surface of an
electrophotographic image-receiving sheet using a belt fixing and
smoothing apparatus, smoothing the toner image, and releasing the
electrophotographic image-receiving sheet bearing the toner image
to thereby produce an electrophotographic print,
wherein the belt fixing and smoothing apparatus comprising:

- a hot-pressing member,
- a belt member,
- a cooling device, and
- a cooling-releasing section,

wherein an amount of curling C (mm) of the electrophotographic
print satisfies the following condition:

$$-0.10L \leq C \leq +0.05L$$

wherein L is a length (mm) of a short side of the electrophotographic
print; a negative value (-) of the amount of curling C means that the
electrophotographic print curls so that its surface opposite to the
image-bearing surface is inside; and a positive value (+) of the
amount of curling C means that the electrophotographic print curls
so that its image-bearing surface is inside.

2. An image forming process according to Claim 1, wherein
the step of fixing and smoothing the toner image on the

image-bearing surface of the electrophotographic image-receiving sheet are performed one of simultaneously and sequentially in this order.

3. An image forming process according to Claim 1, wherein the amount of curling C (mm) is determined after leaving the produced electrophotographic print in an atmosphere that a temperature is 25°C and a relative humidity is 50%, for 10 minutes.

4. An image forming process according to Claim 1, wherein the amount of curling C (mm) determined after leaving the produced electrophotographic print in an atmosphere that the temperature is 25°C and a relative humidity is 50%, for 10 minutes or longer, satisfies the following condition:

$$-0.10L \leq C \leq +0.05L$$

wherein L, the negative value (-) and the positive value (+) of the amount of curling C have the same meanings as defined above.

5. An image forming process according to Claim 1, wherein the amount of curling C (mm) satisfies the following condition:

$$-0.05 \leq C \leq +0.02L$$

wherein L, the negative value (-) and the positive value (+) of the amount of curling C have the same meanings as defined above.

6. An image forming process according to Claim 1, wherein

a toner is applied to the image-bearing surface of the electrophotographic image-receiving sheet in an amount of 0 to 12 g/m².

7. An image forming process according to Claim 1, wherein the electrophotographic image-receiving sheet comprises:

a support; and

at least one toner-image-receiving layer arranged over the support,

wherein the support comprises,

raw paper,

a first polyolefin resin layer arranged between the toner-image-receiving layer and the support, and

a second polyolefin resin layer arranged on an opposite side of the support to the first polyolefin resin layer.

8. An image forming process according to Claim 7, wherein the first polyolefin resin layer has crystallinity lower than that of the second polyolefin resin layer.

9. An image forming process according to Claim 8, wherein the first polyolefin resin layer comprises a low-density polyethylene, and wherein the second polyolefin resin layer comprises one of a high-density polyethylene and a mixture of a high-density polyethylene and a low-density polyethylene.

10. An image forming process according to Claim 7, wherein the raw paper has a basis weight of 130 g/m² or more.

11. An image forming process according to Claim 7, wherein the raw paper has a thickness of 30 μm to 500 μm.

12. An image forming process according to Claim 1, wherein the belt fixing and smoothing apparatus further comprises a heating roller and a pressure roller, and wherein the angle (exit angle) θ between the tangent line in a nip between the heating roller and the pressure roller and the direction of travel of the belt member after passing through the nip satisfies the following condition:

$$-2^{\circ} < \theta \leq 10^{\circ}.$$

13. An image forming process according to Claim 1, wherein the belt member has a support film and a releasing layer arranged on the support film.

14. An image forming process according to Claim 13, wherein the releasing layer has a thickness of 1 μm to 200 μm.

15. An image forming process according to Claim 13, wherein the releasing layer comprises one of a fluorocarbonsiloxane rubber layer alone and a combination of a silicone rubber layer and

a fluorocarbonsiloxane rubber layer arranged on the silicone rubber layer.

16. An image forming process according to Claim 15, wherein the fluorocarbonsiloxane rubber has at least one of perfluoroalkyl ether groups and perfluoroalkyl groups in its principal chain.

17. An image forming apparatus comprising:
a belt fixing and smoothing apparatus which comprises,
a hot-pressing member,
a belt member,
a cooling device, and
a cooling-releasing section,

wherein an amount of curling C (mm) of the electrophotographic print satisfies the following condition:

$$-0.10L \leq C \leq +0.05L$$

wherein L is a length (mm) of a short side of the electrophotographic print; a negative value (-) of the amount of curling C means that the electrophotographic print curls so that its surface opposite to the image-bearing surface is inside; and a positive value (+) of the amount of curling C means that the electrophotographic print curls so that its image-bearing surface is inside

wherein a toner image formed on an image bearing surface of an electrophotographic image-receiving sheet is fixed using the belt

fixing and smoothing apparatus, the toner image is smoothed, and the electrophotographic image-receiving sheet bearing the toner image is released to thereby produce an electrophotographic print.

18. An image forming apparatus according to Claim 17, wherein the belt fixing and smoothing apparatus further comprises a heating roller and a pressure roller, and wherein the angle (exit angle) θ between the tangent line in a nip between the heating roller and the pressure roller and the direction of travel of the belt member after passing through the nip satisfies the following condition:

$$-2^{\circ} < \theta \leq 10^{\circ}.$$

19. An electrophotographic print having:
an amount of curling C (mm) of the electrophotographic print satisfying the following condition:

$$-0.10L \leq C \leq +0.05L$$

wherein L is a length (mm) of a short side of the electrophotographic print; a negative value (-) of the amount of curling C means that the electrophotographic print curls so that its surface opposite to the image-bearing surface is inside; and a positive value (+) of the amount of curling C means that the electrophotographic print curls so that its image-bearing surface is inside.

20. An electrophotographic print according to Claim 19, wherein the amount of curling C (mm) satisfies the following

condition:

$$-0.05 \leq C \leq +0.02L$$

wherein L, the negative value (-) and the positive value (+) of the amount of curling C have the same meanings as defined above.

21. An electrophotographic print according to Claim 19, wherein the electrophotographic print has a 20-degree glossiness of 80 or more.